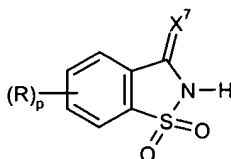


## IN THE CLAIMS

1. (original): A process for the phosphitylation of an alcohol or thiol with a phosphitylation agent in the presence of an activator, characterised in that the activator has the formula 1:



wherein p is 0 or an integer from 1 to 4, R for each occurrence is a substituent, and X<sup>7</sup> is O or S.

2. (original): A process according to claim 1, wherein X<sup>7</sup> is O and p is 0.

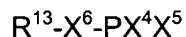
3. (original): A process according to claim 1 or 2, wherein the compound of formula 1 is employed as a salt complex with an organic base.

4. (original): A process according to claim 3, wherein the organic base is selected from the group consisting of pyridine, 3-methylpyridine, and N-methylimidazole.

5. (currently amended): A process according to ~~any preceding~~ claim 3, wherein the alcohol or thiol is a nucleoside or oligonucleotide comprising a free hydroxy or thiol group.

6. (original): A process according to claim 5, wherein a nucleoside comprising a free 3'-hydroxy group is phosphitylated.

7. (currently amended): A process according to ~~any preceding~~ claim 3, wherein the phosphitylation agent has the general chemical formula:

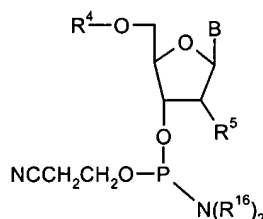


wherein R<sup>13</sup> represents a phosphorus protecting group, X<sup>6</sup> represents O or S, X<sup>4</sup> and X<sup>5</sup>, which may be the same or different, represent leaving groups.

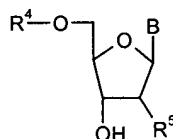
8. (original): A process according to claim 7, wherein  $R^{13}$  represents a substituted or unsubstituted aliphatic or aralkyl group or a substituted or unsubstituted aromatic group,  $X^6$  is O and  $X^4$  and  $X^5$  each independently represent  $-NR^{14}R^{15}$ , wherein  $R^{14}$  and  $R^{15}$  each independently represents a  $C_{1-6}$  alkyl, group, or  $R^{14}$  and  $R^{15}$  are joined, together with the N to which they are attached, to form a 5-7 membered ring.

9. (original): A process according to claim 8, wherein the phosphitylating agent is selected from the group consisting of O- $\beta$ -cyanoethyl-N,N,N',N'-tetraisopropylphosphorodiamidite, O- $\beta$ -cyanoethyl-N,N,N',N'-tetramethylphosphorodiamidite, O- $\beta$ -cyanoethyl-N,N,N',N'-tetraethylphosphorodiamidite, bis (N,N-diisopropylamino)-2-methyltrifluoroacetyl-amino-ethoxyphosphine, bis (N,N-diisopropylamino)-2-diphenylmethylsilylethoxyphosphine and O- $\beta$ -cyanoethyl-bis (N-morpholino) phosphorodiamidite.

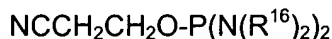
10. (original): A process for the preparation of a compound of formula:



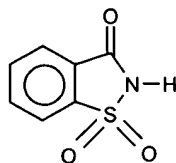
which comprises reacting a compound of formula:



with a compound of formula:



in the presence of an activator, where the activator comprises a compound of formula:



and an organic base, wherein  $R^4$  is an alcohol protecting group,  $R^5$  is -H, -F -OR<sup>6</sup>, -NR<sup>7</sup>R<sup>8</sup>, -SR<sup>9</sup>, or a substituted or unsubstituted aliphatic group, such as methyl or allyl,  $R^6$  for each occurrence is -H, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted aryl group, a substituted or unsubstituted aralkyl, an alcohol protecting group, or -(CH<sub>2</sub>)<sub>q</sub>-NR<sup>11</sup>R<sup>12</sup>,  $R^7$  and  $R^8$  are each, independently, -H, a substituted or unsubstituted aliphatic group, or an amine protecting group or  $R^7$  and  $R^8$  taken together with the nitrogen to which they are attached are a heterocyclyl group,  $R^9$  is -H, a substituted or unsubstituted aliphatic group, or a thiol protecting group,  $R^{11}$  and  $R^{12}$  are each, independently, -H, a substituted or unsubstituted aryl group, a substituted or unsubstituted heteroaryl group, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted aralkyl group, a substituted or unsubstituted heteroaralkyl group or an amine protecting group or  $R^{11}$  and  $R^{12}$  taken together with the nitrogen to which they are attached form a heterocyclyl group,  $q$  is an integer from 1 to about 6,  $B$  is -H, a natural or unnatural nucleobase, protected nucleobase, protected natural or unnatural nucleobase, heterocycle or a protected heterocycle and  $R^{16}$  represents a C<sub>1-6</sub> alkyl group, preferably an isopropyl group.

11. (original): A process according to claim 10, wherein the organic base is selected from the group consisting of pyridine, 3-methylpyridine, and N-methylimidazole.

12. (original): A process according to claim 10 or 11, wherein  $R^5$  is H, OMe or OCH<sub>2</sub>CH<sub>2</sub>OMe.

13. (original): A process according to claim 10 or 11, wherein  $R^4$  is an acid-labile protecting group and  $R^5$  is OR<sup>6</sup> wherein  $R^6$  is a base labile protecting group or a silyl protecting group.